

VARIABLE GEOMETRY TURBOCHARGER

ABSTRACT

A variable geometry turbocharger includes vanes disposed therein
5 having an inner airfoil surface oriented adjacent a turbine wheel, and an outer airfoil
surface oriented opposite and parallel to the inner airfoil surface. The vane includes
first and second axial surfaces that are each positioned perpendicular to and interposed
between the inner and outer airfoil surfaces. A vane leading edge is positioned along a
first inner and outer airfoil surface junction, and a trailing edge is positioned along a
10 second inner and outer airfoil surface junction. One or more of the first and second
axial surfaces have a composite construction comprising a solid section that extends a
distance from the leading edge towards the trailing edge, and a cored-out section that
extends a distance from the trailing edge towards the leading edge.